



Seminar and Roundtable on Coalbed Methane Development and Potential



RUSSIA

September 10, 1998

Country Fact Sheet

Current CBM Activities

- Reduction of CBM Emissions in the Kuznetsk Coal Basin
- Utilization of CBM in a Boiler House of the Pervomayskaya Mine

Key Factors in Energy Economy

- World's largest producer of natural gas at 600 billion m³.
- World's 3rd largest producer of oil, producing 293 million tonnes of crude oil in 1996.
- World's 4th largest coal producer. In 1997, the coal mines produced 262 million tons of coal.

Potential Role of CBM in Energy Economy

- CBM recovery and utilization projects are expected to promote local economic development by potentially offsetting the number of jobs lost during the restructuring and by enhancing the financial viability of coal mines.
- CBM projects may improve profitability of mines by increasing revenues or by decreasing costs.
- Russia is one of the world's largest producers of CBM.
- CBM emissions comprise ~15% of the total national anthropogenic methane emissions.

CBM Potential

- A project at just 10 of the mines in the Kuznetsk coal basin could achieve annual reductions of ~4.6 million tonnes of CO₂ equivalent.

Existing Policies Affecting CBM Development

- Federal Program to Improve Socio-Economic and Environmental Conditions of the Kemerovo Oblast
- Climate Action Plan of the Russian Federation

Overseeing or Permitting Government Agencies

- Russian Committee for Environmental Protection
- Russian Federal Service for Hydrometeorology and Environmental Monitoring



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- Russian Ministry of Fuel and Energy
- The Institute of Coal & Coal Chemistry, Russian Academy of Sciences, Siberian Branch
- Russian Coalbed Methane Center

Potential Barriers to CBM Development

- To be successful, the project needs input and cooperation from several main ministries, local authorities, and other institutions in Russia. The Technical Working Group (TWG) will promote cooperation.
- Lack of experience using coal mine methane.
- Political instability.
- Lack of capital.
- Lack of information available to outside investors.

Donors/ Companies/ Investors Active in CBM

- Partners in Economic Reform, Partnership for Freedom, National Pollution Abatement Facility, U.S. Environmental Protection Agency, United Nations Development Programme, World Bank Global Carbon Initiative and Carbon Investment Fund, GEF, U.S. Agency for International Development



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Reduction of CBM Emissions in the Kuznetsk Coal Basin

Contact Information

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Status

Feasibility stage estimated starting date ~April 1, 1998. Estimated duration ~10 months.

Location

- Kemerovskaia Oblast, Russian Federation
- Approximately 26,000 km² (10,036 mi²)

**Estimated Capital
and O&M Costs**

US\$80,000 for salaries of staff

**Proponents/
Sponsors of the
Project**

UN OPS



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Utilization of CBM in a Boiler House of the Pervomayskaya Mine

Contact Information

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Status

NPAF Council has approved the loan

Location

Berezovskiy, Kemerovo region

Technical Summary

The mine liberates and drains 14,000 T/yr of methane. Presently none of it is being used. The project will involve conversion of boilers to fire 6,750 t/yr of CBM with coal, which will serve as a model for expanding CBM use in the Kuznetsk Coal Basin. Estimated CBM resources associated with the coal reserves of Kuzbass mines range from 194 to 342 billion m³.

There are three main components of the project:

- 1) enhanced drilling,
- 2) creation of centralized system of collection and isolated transportation of captured gas using pipelines, and
- 3) reconstruction of a boiler house to cofire coal and methane. This fuel mixture will have an average methane concentration of 40% or greater, and a potential energy equivalent of 9 Gcal/hr. The gas



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input may vary from less than 10% to up to 100% of total fuel supply, depending on boiler design and the needs of the boiler operator.

Estimated Capital and O&M Costs

Capital cost: US\$1,588,000

Operation and maintenance cost: US\$89,800/year

Sources of Revenue

Heat to mine

Electricity

Proponents/ Sponsors of the Project

Averchenkov, Director

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Lessons Learned

The project has special importance, as it will help to solve the problem of safety at the working place. There were a few incidents in the region, which killed some people over the last months because of methane exposure. Administration of the Kuzbas region and Ministry of Fuel and Energy has greatly supported this project.